

WHAT IS CLAIMED IS:

1. A method for manufacturing a microlens substrate comprising the steps of:

forming a lens-shaped curve at a surface side of a transparent substrate;

forming an inorganic material film on said transparent substrate so as to bury said curve therewith; and

planarizing the surface of said inorganic material film to provide a microlens where said curve is buried with said inorganic material film.

2. The method according to Claim 1, wherein the step of forming a lens-shaped curve at a surface side of a transparent substrate comprises:

forming a resist film on said transparent substrate;

forming the lens-shaped curve at a surface side of said resist film; and

transferring said lens shape from said resist film to the surface side of said transparent substrate by dry etching.

3. The method according to Claim 1, wherein the step of forming a lens-shaped curve at a surface side of a transparent substrate comprises:

forming a mask pattern on said transparent substrate; and

forming said lens-shaped curve at the surface side of said transparent substrate by isotropic etching from said mask pattern.

4. The method according to Claim 1, wherein said inorganic material film is formed of at least one member selected from the group consisting of Al_2O_3 , HfO_2 , Ta_2O_5 , Nb_2O_5 and ZrO_2 .

5. The method according to Claim 1, wherein after the step of planarizing the surface of said inorganic material film to provide a microlens where said curve is buried with said inorganic material film, a cover film having a given thickness is formed on said inorganic material film.

6. The method according to Claim 1, wherein after the step of planarizing the surface of said inorganic material film to provide a microlens where said curve is buried with said inorganic material film, a thin film transistor is formed on said inorganic material film at a position corresponding to a peripheral portion of said microlens.

7. The method according to Claim 6, wherein after the step of planarizing the surface of said inorganic

material film to provide a microlens where said curve is buried with said inorganic material film, but prior to the formation of said thin film transistor, a light-shielding pattern is provided on said inorganic material film at the position corresponding to a peripheral portion of said microlens.

8. A method for manufacturing a liquid crystal panel, which comprising the steps of:

providing a microlens substrate made by forming a lens-shaped curve at a surface side of a transparent substrate, forming an inorganic material film on said transparent substrate so as to bury said curve therewith, planarizing a surface of said inorganic material film to form a microlens wherein said curve is buried with said inorganic material film, and forming a thin film transistor on said inorganic material film at a position corresponding to a peripheral portion of said microlens;

placing a counter substrate in face-to-face relation with said microlens substrate at a thin film transistor-formed side thereof; and

sealedly filling a liquid crystal layer between said microlens substrate and said counter substrate.

9. A method for manufacturing a liquid crystal panel, which comprising the steps of:

providing a first microlens substrate and a second microlens substrate, each made by forming a lens-shaped curve at a surface side of a transparent substrate, forming an inorganic material film on said transparent substrate so as to bury said curve therewith, and planarizing a surface of said inorganic material film to form a microlens wherein said curve is buried with said inorganic material film;

forming a thin film transistor on said inorganic material film of said first microlens substrate at a position corresponding to a peripheral portion of the microlens;

placing said first microlens substrate and said second microlens substrate in such a way that the planarized surface of said first microlens substrate and a thin film transistor-formed side of said second microlens substrate are in face-to-face relation with each other keeping principal points of the two microlens substrates at a given distance; and

sealedly filling a liquid crystal layer between said first microlens substrate and said second microlens substrate.